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EXAMINER	
RAWLINGS, STEPHEN L	

ART UNIT	PAPER NUMBER
1643	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/645,756	MONAHAN ET AL.	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-48 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-48 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-48 are pending in the application and are currently subject to restriction.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I. Claims 8-10, drawn to a method for assessing whether a person is afflicted with cervical cancer, said method comprising detecting the presence in a sample of one or a plurality of proteins corresponding to one or a plurality of markers, wherein said markers are selected from the group consisting of M1A, M718, OV3A, M719, M720, M5A, M10A, M29A, M30A, M721, M488A, M35, M722, M723, M666, M489A, OV43A, M51A, M58, M22A, M74A, and M78, as listed in Table 1 of the specification, classified, for example, in class 435, subclass 7.23.

Group II. Claims 11-15, drawn to a method for assessing whether a person is afflicted with cervical cancer, said method comprising detecting the presence in a sample of one or a plurality of transcribed polynucleotides, or complementary DNA molecules derived therefrom, corresponding to one or a plurality of markers, wherein said markers are selected from the group consisting of M1A, M718, OV3A, M719, M720, M5A, M10A, M29A, M30A, M721, M488A, M35, M722, M723, M666, M489A, OV43A, M51A, M58, M22A, M74A, and M78, as listed in Table 1 of the specification, classified, for example, in class 435, subclass 6.

Groups III-XXIV. Claims 22-27, insofar as the claims are drawn to a method for monitoring the progression of cervical cancer in a patient, said method comprising detecting in a sample acquired from the patient the expression of a marker selected from the group the group consisting of (III) M1A, (IV) M718, (V) OV3A, (VI) M719, (VII) M720, (VIII) M5A, (IX) M10A, (X) M29A, (XI) M30A, (XII)

M721, (XIII) M488A, (XIV) M35, (XV) M722, (XVI) M723, (XVII) M666, (XVIII) M489A, (XIX) OV43A, (XX) M51A, (XXI) M58, (XXII) M22A, (XXIII) M74A, and (XXIV) M78, as listed in Table 1 of the specification, classified, for example, in class 435, subclass 6.

Groups XXV-XLVII. Claims 22-27, insofar as the claims are drawn to a method for monitoring the progression of a premalignant condition in a patient, said method comprising detecting in a sample acquired from the patient the expression of a marker selected from the group the group consisting of (XXVI) M1A, (XXVII) M718, (XVIII) OV3A, (XXIX) M719, (XXX) M720, (XXXI) M5A, (XXXII) M10A, (XXXIII) M29A, (XXXIV) M30A, (XXXV) M721, (XXXVI) M488A, (XXXVII) M35, (XXXVIII) M722, (XXXIX) M723, (XL) M666, (XLI) M489A, (XLII) OV43A, (XLIII) M51A, (XLIV) M58, (XLV) M22A, (XLVI) M74A, and (XLVII) M78, as listed in Table 1 of the specification, classified, for example, in class 435, subclass 6.

Groups XLVIII-LXIX. Claims 28-30 and 32, insofar as the claims are directed to a method for assessing the efficacy of a test compound for inhibiting cervical cancer, or for selecting a composition for inhibiting cervical cancer, said method comprising exposing cervical cancer cells acquired from a patient to one or a plurality of test compounds/compositions and measuring the level of expression in the cells of a marker selected from the group the group consisting of (XLVIII) M1A, (XLIX) M718, (L) OV3A, (LI) M719, (LII) M720, (LIII) M5A, (LIV) M10A, (LV) M29A, (LVI) M30A, (LVII) M721, (LVIII) M488A, (LIX) M35, (LX) M722, (LXI) M723, (LXII) M666, (LXIII) M489A, (LXIV) OV43A, (LXV) M51A, (LXVI) M58, (LXVII) M22A, (LXVIII) M74A, and (LXIX) M78, as listed in Table 1 of the specification, classified, for example, in class 435, subclass 6.

Groups LXX-XCI. Claim 31, insofar as the claim is drawn to a method for assessing the efficacy of a therapy for inhibiting cervical cancer in a patient, said

method comprising measuring the level of a marker before and after treating the patient, wherein said marker is selected from the group the group consisting of (LXX) M1A, (LXXI) M718, (LXXII) OV3A, (LXXIII) M719, (LXIV) M720, (LXV) M5A, (LXXVI) M10A, (LXXVII) M29A, (LXXVIII) M30A, (LXXIX) M721, (LXXX) M488A, (LXXXI) M35, (LXXXII) M722, (LXXXIII) M723, (LXXXIV) M666, (LXXXV) M489A, (LXXXVI) OV43A, (LXXXVII) M51A, (LXXXVIII) M58, (LXXXIX) M22A, (XC) M74A, and (XCI) M78, as listed in Table 1 of the specification, classified, for example, in class 435, subclass 6.

Groups XCII-CXII. Claims 33, 40, and 41 insofar as the claims are drawn to a method for inhibiting cervical cancer in a patient, or for treating cervical cancer in a patient, or for inhibiting cervical cancer in a patient at risk for developing cervical cancer, said method comprising administering to the patient an antisense oligonucleotide that lowers the level of expression of a marker, wherein said marker is selected from the group the group consisting of (XCII) M1A, (XCIII) M718, (XCIV) OV3A, (XCV) M719, (XCVI) M720, (XCVII) M5A, (XCVII) M10A, (XCVIII) M29A, (XCIX) M30A, (C) M721, (CI) M488A, (CII) M35, (CIII) M722, (CIV) M723, (CV) M666, (CVI) M489A, (CVII) OV43A, (CVIII) M51A, (CIX) M58, (CX) M22A, (CXI) M74A, and (CXII) M78, as listed in Table 1 of the specification, classified, for example, in class 514, subclass 44.

Group CXIII. Claims 34, 36, and 39, drawn to a kit comprising one or more reagents, which cannot be classified because the chemical and biologic nature of the one or more reagents is not specified.

Groups CXIV-CXXXV. Claims 35 and 42-44, insofar as the claims are drawn to a nucleic acid molecule comprising the nucleotide sequence of a marker, a vector comprising said nucleic acid molecule, a host cell containing said nucleic acid molecule, and a kit comprising a nucleic acid probe that specifically binds to a transcribed polynucleotide corresponding to a marker, wherein said marker is

selected from the group the group consisting of (CXIV) M1A, (CXV) M718, (CXVI) OV3A, (CXVII) M719, (CXVIII) M720, (CXIX) M5A, (CXX) M10A, (CXXI) M29A, (CXXII) M30A, (CXXIII) M721, (CXXIV) M488A, (CXXV) M35, (CXXVI) M722, (CXXVI) M723, (CXXVIII) M666, (CXXIX) M489A, (CXXX) OV43A, (CXXXI) M51A, (CXXXII) M58, (CXXXIII) M22A, (CXXXIV) M74A, and (CXXXV) M78, as listed in Table 1 of the specification, classified, for example, in class 536, subclass 23.5, class 435, subclass 320.1, class 435, subclass 325, and class 536, subclass 24.31, respectively.

Groups CXXXVI-CLVII. Claims 37, 46, and 48, insofar as the claims are drawn to an antibody, or a kit comprising said antibody, wherein said antibody binds specifically or selectively to a polypeptide corresponding to a marker, wherein said marker is selected from the group the group consisting of (CXXXVI) M1A, (CXXXVII) M718, (CXXXVIII) OV3A, (CXXXIX) M719, (CXL) M720, (CXLI) M5A, (CXLII) M10A, (CXLIII) M29A, (CXLIV) M30A, (CXLV) M721, (CXLVI) M488A, (CXLVII) M35, (CXLVIII) M722, (CXLIX) M723, (CL) M666, (CLI) M489A, (CLII) OV43A, (CLIII) M51A, (CLIV) M58, (CLV) M22A, (CLVI) M74A, and (CLVII) M78, as listed in Table 1 of the specification, classified, for example, in class 530, subclass 387.9.

Groups CLVIII-CLXXIX. Claim 38, insofar as the claim is drawn to a method for assessing the cervical cell carcinogenic potential of a test compound, said method comprising maintaining separate aliquots of cervical cells in the presence or absence of a test compound and determining the level of expression of a marker, wherein said marker is selected from the group the group consisting of (CLVIII) M1A, (CLIX) M718, (CLX) OV3A, (CLXI) M719, (CLXII) M720, (CLXIII) M5A, (CLXIV) M10A, (CLXV) M29A, (CLXVI) M30A, (CLXVII) M721, (CLXVIII) M488A, (CLXIX) M35, (CLXX) M722, (CLXXI) M723, (CLXXII) M666, (CLXXIII) M489A, (CLXXIV) OV43A, (CLXXV) M51A, (CLXXVI) M58, (CLXXVII) M22A,

(CLXXVIII) M74A, and (CLXXIX) M78, as listed in Table 1 of the specification, classified, for example, in class 435, subclass 6.

Groups CLXXX-CC. Claims 45 and 47, insofar as the claims are drawn to a polypeptide encoded by a nucleic acid comprising a nucleotide sequence selected from the group consisting of (CLXXX) SEQ ID NO: 1, (CXC) SEQ ID NO: 7, (CXCI) SEQ ID NO: 9, (CXCII) SEQ ID NO: 11, (CXCIII) SEQ ID NO: 17, (CXCIV) SEQ ID NO: 19, (CXCV) SEQ ID NO: 21, (CXCVI) SEQ ID NO: 23, (CXCVII) SEQ ID NO: 25, (CXCVIII) SEQ ID NO: 27, (CXCIX) SEQ ID NO: 33, and (CC) SEQ ID NO: 43, classified, for example, in class 530, subclass 350.

3. Claims 1-7 and 16-21 are linking claims, linking the inventions of Groups I and II. The restriction requirement among the linked inventions is subject to the nonallowance of the linking claim(s). Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim depending from or otherwise including all the limitations of the allowable linking claims will be entitled to examination in the instant application. Applicants are advised that if any such claims depending from or including all the limitations of the allowable linking claims are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

4. The inventions are distinct, each from the other because of the following reasons:

The inventions of Groups CXIII-CLVII and CLXXX-CC are products, whereas the inventions of Groups I-CXII and CLVIII-CLXXIX are processes.

The inventions of Groups CXIII-CXXXV and CLXXX-CC and the inventions of Groups I-CXII and CLVIII-CLXXIX are unrelated because the products of Groups CXIII-CXXXV and CLXXX-CC are not specifically used or otherwise involved in the processes of Groups I-CXII and CLVIII-CLXXIX.

The inventions of Groups CXXXVI-CLVII and the inventions of Groups I are related as products and processes of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product as claimed, namely the antibody can be used in a materially different process of using that product, such as the process of using the antibody to purify the protein to which it binds by affinity chromatography.

The inventions of Groups I and the inventions of Groups CXXXVI-CLVII have acquired a separate status in the art, as evidenced by their different classifications and/or art-recognized divergence in subject matter, and the search performed in examining claims drawn to a product is a different from the search performed in examining claims drawn to a process using that product. Apart from the searching patent databases using the patent classification of the claimed subject matter, a thorough search of the technical literature is particularly pertinent, and since such a search is performed by a series of key word queries of relevant databases, each search would be performed using a different set or series of key words. Therefore, the search and considerations necessary in examining the merit of claims directed to the inventions of Group I would not suffice to provide adequate information regarding the merit of the claims directed to the inventions of any of Groups CXXXVI-CLVII, and vice versa, since the searches are not the same, nor are they one coextensive in scope and nature. Because different searches would have to be performed to examine claims directed to the inventions of Groups I and claims directed to any of Groups CXXXVI-CLVII, an examination of both would constitute a serious burden.

Since the inventions of Groups I and any of the inventions of Groups CXXXVI-CLVII have been shown to be patentably distinct, and because the examination of both inventions could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

The inventions of Groups CXIII-CLVII and CLXXX-CC are patentably distinct for the following reasons:

The inventions of Groups CXIII are kits comprising one or more reagents; whereas the inventions of Groups CXIV-CXXXV are nucleic acid molecules, vectors comprising such nucleic acid molecules, host cells comprising such nucleic acid molecules, or kits comprising nucleic acid probes that bind to such nucleic acid molecules; the inventions of Groups CXXXVI-CLVII are antibodies, or kits comprising antibodies; and the inventions of Groups CLXXX-CC are polypeptides.

Polypeptides and polynucleotides are chemically distinct products, since polypeptides are composed of polymers of amino acids, whereas polynucleotides are composed of polymers of nucleotides. Any relationship between a polynucleotide and a polypeptide is dependent upon the information provided by the nucleotide sequence of the polynucleotide, as it corresponds to an "open reading frame" encoding the amino acid sequence of the polypeptide. However, a polypeptide can be produced by means, other than the recombinant means by which a polynucleotide encoding a polypeptide might be used to produce the polypeptide, since a polypeptide can be produced (or isolated) by biochemical means, including, for example, affinity chromatography. In addition, while the polynucleotide might encode the polypeptide, generally, it can also encode another polypeptide using the information provided by an alternative open reading frame; and furthermore, since a polynucleotide can be used as a probe in hybridization-based analyses, the information provided by a polynucleotide can be used isolate different polynucleotides encoding polypeptides, which have amino acid sequences that differ from the amino acid sequence encoded by the disclosed polynucleotide. Consequently, the disclosed relationship between a polynucleotide

capable of encoding a polypeptide and the polypeptide is not exclusive, since either the claimed polynucleotide or the claimed polypeptide can also be related to other polynucleotides or polypeptides, which are materially and chemically different from the claimed inventions. Therefore, the inventions of Groups CLXXX-CC and the inventions of Groups CXIV-CXXXV, respectively, are patentably distinct products.

The inventions of Groups CLXXX-CC and the inventions of Groups CXIV-CXXXV have acquired a separate status in the art, as evidenced by their different classifications, and the search performed in examining claims drawn to a polynucleotide is a different from the search performed in examining claims drawn to a polypeptide. Apart from the searching patent databases using the patent classification of the claimed subject matter, a thorough search of the technical literature is particularly pertinent, and since such a search is performed by a series of key word queries of relevant databases, each search would be performed using a different set or series of key words. Therefore, the search and considerations necessary in examining the merit of claims directed to the inventions of any of Groups CLXXX-CC would not suffice to provide adequate information regarding the merit of the claims directed to the inventions of any of Groups CXIV-CXXXV, and vice versa, since the searches are not the same, nor are they one coextensive in scope and nature. Because different searches would have to be performed to examine the inventions of any of Groups CLXXX-CC and the inventions of any of Groups CXIV-CXXXV, an examination of both would constitute a serious burden. Moreover, because the disclosed relationship between the polynucleotide and the polypeptide encoded by the polynucleotide is not absolute or exclusive of other relationships with different polynucleotides or polypeptides, the search of either group will likely provide information that is relevant to one but not the other; and as such, searching one in addition to the other would be unduly burdensome.

Since the inventions of any of Groups CLXXX-CC and the inventions of any of Groups CXIV-CXXXV are patentably distinct from the other and because the examination of both could not be made without serious burden, it is proper to restrict one from the other. See MPEP § 803.

An antibody, such as an immunoglobulin G (IgG) molecule, typically comprises four polypeptides: two light chains and two heavy chains, each containing constant and variable regions, which interact with one another to form an antigen-binding domain comprised of amino acid residues in each chain. In contrast, claims polypeptides are disclosed as consisting of a single polypeptide chain; so the inventions of any of Groups CXXXVI-CLVII and the inventions of any of Groups CLXXX-CC are structurally distinct from one another. Thus, any relationship between an antibody and a polypeptide to which the antibody binds is codependent upon the structural (i.e., antigenic) information provided by the polypeptide, which is recognized as the antigenic determinant to which the antibody binds, and the selective binding nature of the antigen-binding domain of the antibody. However, a polypeptide comprises multiple antigenic determinants and can thus elicit the production of multiple different antibodies, which recognize and bind structurally distinct portions (i.e., epitopes) of the polypeptide. Furthermore, an antibody is capable of recognizing and binding antigenic determinants that are shared by polypeptides, which are otherwise structurally and/or functionally distinct from the claimed polypeptide to which it binds (e.g., a human protein's mouse homolog, or a different member of a functionally related family of proteins). Consequently, the disclosed relationship between an antibody that binds a polypeptide and the polypeptide is not exclusive, since either the claimed antibody or the claimed polypeptide can also be related to other polypeptides or antibodies, respectively, which are materially and chemically different from the claimed inventions. Therefore, the inventions of any of Groups CXXXVI-CLVII and the inventions of any of Groups CLXXX-CC are patentably distinct products.

Searching both the inventions of any of Groups CXXXVI-CLVII and the inventions of any of Groups CLXXX-CC would be unduly burdensome, because the inventions have acquired a separate status in the arts, as evidenced by their separate classifications, and moreover because the necessary searches are not the same, nor are they coextensive in nature and scope with one another. A search of relevant sequence databases using the entire amino acid sequence of the polypeptide as query is necessary for the determination of the novelty and unobviousness of the polypeptide.

However, such a search is not necessary, or sufficient to identify antibodies that bind the polypeptide, since antibodies that bind an epitope of the polypeptide may be known, even if the polypeptide is not (e.g., a anti-phosphotyrosine antibody binds a phosphotyrosine epitope, which is shared by numerous different proteins, and which would bind a novel tyrosine phosphorylated polypeptide). Accordingly, a thorough search of the technical literature is particularly pertinent, and since such a search is performed by a series of key word queries of relevant databases, each search would be performed using a different set or series of key words. Therefore, having to search both the inventions of any of Groups CXXXVI-CLVII and the inventions of any of Groups CLXXX-CC would constitute a serious burden.

Since the inventions of any of Groups CXXXVI-CLVII and the inventions of any of Groups CLXXX-CC are patentably distinct and because the examination of both could not be made without serious burden, it is proper to restrict one from the other. See MPEP § 803.

CXIV-CXXXV are nucleic acid molecules, vectors comprising such nucleic acid molecules, host cells comprising such nucleic acid molecules, or kits comprising nucleic acid probes that bind to such nucleic acid molecules; the inventions of Groups A polynucleotide is composed of polymers of nucleotides, whereas antibodies are composed of polymers of amino acids. Any relationship between a polynucleotide and a polypeptide is dependent upon the information provided by the nucleotide sequence of the polynucleotide, as it corresponds to an "open reading frame" encoding the amino acid sequence of the polypeptide. However, the claimed polynucleotide does not encode a polypeptide chain of the claimed antibody; and the claimed antibody cannot be encoded by the claimed polynucleotide. Therefore, the inventions of any of Groups CXIV-CXXXV and the inventions of any of Groups CXXXVI-CLVII are patentably distinct products.

Searching both the inventions of any of Groups CXIV-CXXXV and the inventions of any of Groups CXXXVI-CLVII would be unduly burdensome, because the inventions have acquired a separate status in the arts, as evidenced by their separate

classifications, and moreover because the necessary searches are not the same, nor are they coextensive in nature and scope with one another. Therefore, having to search both the inventions of any of Groups CXIV-CXXXV and the inventions of any of Groups CXXXVI-CLVII would constitute a serious burden.

Since the inventions of any of Groups CXIV-CXXXV and the inventions of any of Groups CXXXVI-CLVII are patentably distinct from the other and because the examination of both could not be made without serious burden, it is proper to restrict one from the other. See MPEP § 803.

The inventions of Groups CXIV-CXXXV are patentably distinct, each from the others, because each is a nucleic acid molecule, a vector comprising such a nucleic acid molecule, a host cell comprising such a nucleic acid molecule, or a kit comprising a nucleic acid probe that binds to such a nucleic acid molecule, wherein the nucleic acid molecule of each different group comprises a distinct polynucleotide sequence that is disclosed as encoding a different protein comprising a distinct amino acid sequence.

Because of the these differences, the search necessary to examine claims directed to any of the inventions of Groups CXIV-CXXXV is not the same, nor is it coextensive with the search necessary to examine claims directed to any of the others. Accordingly, a separate and different search would have to be performed to examine claims directed to any one of these groups of inventions. Therefore, the examination of more than one of the inventions would constitute a serious burden.

Since the inventions of Groups CXIV-CXXXV are patentably distinct from the others and because the examination of more than one could not be made without serious burden, it is proper to restrict one from the other. See MPEP § 803.

The inventions of Groups CXXXVI-CLVII are patentably distinct, each from the others, because each is an antibody that binds a protein comprising a distinct amino acid sequence, which is encoded by a nucleic acid molecule having a distinct polynucleotide sequence.

Because of the these differences, the search necessary to examine claims directed to any of the inventions of Groups CXXXVI-CLVII is not the same, nor is it coextensive with the search necessary to examine claims directed to any of the others. Accordingly, a separate and different search would have to be performed to examine claims directed to any one of these groups of inventions. Therefore, the examination of more than one of the inventions would constitute a serious burden.

Since the inventions of Groups CXXXVI-CLVII are patentably distinct from the others and because the examination of more than one could not be made without serious burden, it is proper to restrict one from the other. See MPEP § 803.

The inventions of Groups CLXXX-CC are patentably distinct, each from the others, because each is a protein comprising a distinct amino acid sequence, which is encoded by a nucleic acid molecule having a distinct polynucleotide sequence.

Because of the these differences, the search necessary to examine claims directed to any of the inventions of Groups CLXXX-CC is not the same, nor is it coextensive with the search necessary to examine claims directed to any of the others. Accordingly, a separate and different search would have to be performed to examine claims directed to any one of these groups of inventions. Therefore, the examination of more than one of the inventions would constitute a serious burden.

Since the inventions of Groups CLXXX-CC are patentably distinct from the others and because the examination of more than one could not be made without serious burden, it is proper to restrict one from the other. See MPEP § 803.

The reagents of which the kits of Group CXIII are not necessarily any of the products of any of Groups CXIV-CLVII and CLXXX-CC, as the chemical and biologic natures of the reagents has not been specified in the claims.

For this reason, it is reasonably presumed that the inventions of Group CXIII are patentably distinct from the inventions of any of Groups CXIV-CLVII and CLXXX-CC.

Because the inventions of Group CXIII and the inventions of any of Groups CXIV-CLVII and CLXXX-CC are patentably distinct, the search necessary to examine

claims directed to the inventions of Group CXIII is not the same, nor is it coextensive with the search necessary to examine claims directed to any of Groups CXIV-CLVII and CLXXX-CC. Accordingly, a separate and different search would have to be performed to examine claims directed to the inventions of Group CXIII and any of Groups CXIV-CLVII and CLXXX-CC. Therefore, the examination of any two would constitute a serious burden.

Since the inventions of Group CXIII and the inventions of any of Groups CXIV-CLVII and CLXXX-CC are patentably distinct, each from the other, and because the examination of both could not be made without serious burden, it is proper to restrict one from the other. See MPEP § 803.

The inventions of Groups I-CXII and CLVIII-CLXXIX are unrelated, or are otherwise patentably distinct, each from the other, for the following reasons:

The inventions of Groups I and II are methods for assessing whether a person is afflicted with cervical cancer, whereas the inventions of Groups III-XXIV are methods for monitoring the progression of cervical cancer in a patient, the inventions of Groups XXV-XLVII are methods for monitoring the progression of a premalignant condition in a patient, the inventions of Groups XLVIII-LXIX are methods for assessing the efficacy of a test compound for inhibiting cervical cancer, the invention of Groups LXX-XCI are methods for assessing the efficacy of a therapy for inhibiting cervical cancer in a patient, the inventions of Groups XCII-CXII are methods for inhibiting cervical cancer in a patient, and the inventions of Groups CLVIII-CLXXIX are methods for assessing the cervical cell carcinogenic potential of a test compound.

Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, and different effects. See MPEP §§ 806.04 and 808.01. The instant specification does not appear to disclose that any of the inventions of Groups I and II, any of the inventions of Groups III-XXIV, any of the inventions of Groups XXV-XLVII, any of the inventions of Groups XLVIII-LXIX, any of the inventions of Groups LXX-XCI, any of the inventions of Groups XCII-CXII, and any of the inventions of Groups CLVIII-CLXXIX are useable

together. Therefore, because the inventions of Groups I and II, the inventions of Groups III-XXIV, the inventions of Groups XXV-XLVII, the inventions of Groups XLVIII-LXIX, the inventions of Groups LXX-XCI, the inventions of Groups XCII-CXII, and the inventions of Groups CLVIII-CLXXIX have different purposes, the inventions appear unrelated.

If not unrelated, the inventions of Groups I and II, the inventions of Groups III-XXIV, the inventions of Groups XXV-XLVII, the inventions of Groups XLVIII-LXIX, the inventions of Groups LXX-XCI, the inventions of Groups XCII-CXII, and the inventions of Groups CLVIII-CLXXIX are patentably distinct, each from the others, for the following reasons:

Again, the inventions of Groups I and II, the inventions of Groups III-XXIV, the inventions of Groups XXV-XLVII, the inventions of Groups XLVIII-LXIX, the inventions of Groups LXX-XCI, the inventions of Groups XCII-CXII, and the inventions of Groups CLVIII-CLXXIX have different purposes or objectives.

In addition, the inventions of Groups I and II, the inventions of Groups III-XXIV, the inventions of Groups XXV-XLVII, the inventions of Groups XLVIII-LXIX, the inventions of Groups LXX-XCI, the inventions of Groups XCII-CXII, and the inventions of Groups CLVIII-CLXXIX are materially different processes comprising different process steps. For example, the inventions of Groups I and II are processes for assessing whether a person is afflicted with ovarian cancer comprising detecting the presence in a sample of one or a plurality of proteins or nucleic acid molecules; in contrast, although the inventions of Groups III-XXIV comprise detecting in a sample the presence of a marker, these inventions are processes for monitoring the progression of cervical cancer in a patient, and as such, these inventions necessarily involve the acquisition of different samples from different populations of patients, as well as the measurement of different endpoints, as compared to the inventions of Groups I and II. Moreover, the processes of the inventions of Groups I and II involve the acquisition of a sample of cells, albeit not necessarily comprising cervical cancer cells, and the correlation of the presence of one or more polypeptides or nucleic acid molecules and the presence of cervical cancer cells in the sample. The processes of the inventions of

Groups III-XXIV comprise the acquisition of specimens of cervical cancers from patients already known to have such the disease and the correlation of the presence of a marker in the cervical cancer cells and the progression of the cancer in the patient, as measured using a "surrogate marker" for the progression, such as survival time or tumor burden. Furthermore, as the inventions of the different groups have different purposes or objectives, and involve the measurement of different endpoints and the establishment of different correlations, they necessarily have different criteria for success. For these reasons, any of the inventions of Groups I and II, any of the inventions of Groups III-XXIV, any of the inventions of Groups XXV-XLVII, any of the inventions of Groups XLVIII-LXIX, any of the inventions of Groups LXX-XCI, any of the inventions of Groups XCII-CXII, and any of the inventions of Groups CLVIII-CLXXIX are patentably distinct from the others.

Because any of the inventions of Groups I and II, any of the inventions of Groups III-XXIV, any of the inventions of Groups XXV-XLVII, any of the inventions of Groups XLVIII-LXIX, any of the inventions of Groups LXX-XCI, any of the inventions of Groups XCII-CXII, and any of the inventions of Groups CLVIII-CLXXIX are distinct for these reasons, the search required to examine claims directed to any one of these inventions is not the same, nor is it coextensive with the search required to examine claims directed to any other. Furthermore, the inventions of Groups I and II, the inventions of Groups III-XXIV, the inventions of Groups XXV-XLVII, the inventions of Groups XLVIII-LXIX, the inventions of Groups LXX-XCI, the inventions of Groups XCII-CXII, and the inventions of Groups CLVIII-CLXXIX have acquired a separate status in the art, as evidenced by their different classifications and/or art-recognized divergence in subject matter. Because different searches would have to be performed to examine claims directed to the inventions of Groups I and II, the inventions of Groups III-XXIV, the inventions of Groups XXV-XLVII, the inventions of Groups XLVIII-LXIX, the inventions of Groups LXX-XCI, the inventions of Groups XCII-CXII, and the inventions of Groups CLVIII-CLXXIX, an examination of more than one would constitute a serious burden.

Since the inventions of Groups I and II, the inventions of Groups III-XXIV, the inventions of Groups XXV-XLVII, the inventions of Groups XLVIII-LXIX, the inventions of

Groups LXX-XCI, the inventions of Groups XCII-CXII, and the inventions of Groups CLVIII-CLXXIX have been shown to be patentably distinct, each from the others, and because the examination of more than one could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

The inventions of Groups I and II are patentably distinct, since, although both are processes for assessing whether a person is afflicted with cervical cancer, the inventions of Group I comprise detecting the presence in a sample of one or a plurality of proteins, whereas the inventions of Group II comprise detecting the presence in a sample of one or a plurality of nucleic acid molecules. The processes for detecting proteins and the processes for detecting nucleic acid molecules are materially different processes comprising different process steps.

Because the inventions of Groups I and II are distinct for these reasons, the search required to examine claims directed to one of these inventions is not the same, nor is it coextensive with the search required to examine claims directed to the other. Furthermore, the inventions of Groups I and II have acquired a separate status in the art, as evidenced by their different classifications and/or art-recognized divergence in subject matter. Because different searches would have to be performed to examine claims directed to the inventions of Groups I and II, an examination of both would constitute a serious burden.

Since the inventions of Groups I and II have been shown to be patentably distinct, and because the examination of both could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

The inventions of Groups III-XXIV are patentably distinct, since, although all are processes for monitoring the progression of cervical cancer in a patient, each different invention is a process comprising detecting the presence in a sample of a different marker. The different markers detected in the practice of these different inventions are structurally and/or functionally distinct, each from the others. Consequently, the

processes are necessarily materially different processes comprising different process steps.

Because the inventions of Groups III-XXIV are distinct for these reasons, the search required to examine claims directed to any one of these inventions is not the same, nor is it coextensive with the search required to examine claims directed to any other. Furthermore, the inventions of Groups III-XXIV have acquired a separate status in the art, as evidenced by their art-recognized divergence in subject matter. Because different searches would have to be performed to examine claims directed to the inventions of Groups III-XXIV, an examination of more than one would constitute a serious burden.

Since the inventions of Groups III-XXIV have been shown to be patentably distinct, and because the examination of both could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

The inventions of Groups XXV-XLVII are patentably distinct, since, although all are processes for monitoring the progression of a premalignant condition in a patient, each different invention is a process comprising detecting the presence in a sample of a different marker. The different markers detected in the practice of these different inventions are structurally and/or functionally distinct, each from the others. Consequently, the processes are necessarily materially different processes comprising different process steps.

Because the inventions of Groups XXV-XLVII are distinct for these reasons, the search required to examine claims directed to any one of these inventions is not the same, nor is it coextensive with the search required to examine claims directed to any other. Furthermore, the inventions of Groups XXV-XLVII have acquired a separate status in the art, as evidenced by their art-recognized divergence in subject matter. Because different searches would have to be performed to examine claims directed to the inventions of Groups XXV-XLVII, an examination of more than one would constitute a serious burden.

Since the inventions of Groups XXV-XLVII have been shown to be patentably distinct, and because the examination of both could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

The inventions of Groups XLVIII-LXIX are patentably distinct, since, although all are processes for assessing the efficacy of a test compound for inhibiting cervical cancer, each different invention is a process comprising measuring the level in a sample of a different marker. The different markers detected in the practice of these different inventions are structurally and/or functionally distinct, each from the others. Consequently, the processes are necessarily materially different processes comprising different process steps.

Because the inventions of Groups XLVIII-LXIX are distinct for these reasons, the search required to examine claims directed to any one of these inventions is not the same, nor is it coextensive with the search required to examine claims directed to any other. Furthermore, the inventions of Groups XLVIII-LXIX have acquired a separate status in the art, as evidenced by their art-recognized divergence in subject matter. Because different searches would have to be performed to examine claims directed to the inventions of Groups XLVIII-LXIX, an examination of more than one would constitute a serious burden.

Since the inventions of Groups XLVIII-LXIX have been shown to be patentably distinct, and because the examination of both could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

The inventions of Groups LXX-XCI are patentably distinct, since, although all are processes for assessing the efficacy of a therapy for inhibiting cervical cancer in a patient, each different invention is a process comprising measuring the level in a plurality of samples acquired before and after treatment of a different marker. The different markers detected in the practice of these different inventions are structurally and/or functionally distinct, each from the others. Consequently, the processes are necessarily materially different processes comprising different process steps.

Because the inventions of Groups LXX-XCI are distinct for these reasons, the search required to examine claims directed to any one of these inventions is not the same, nor is it coextensive with the search required to examine claims directed to any other. Furthermore, the inventions of Groups LXX-XCI have acquired a separate status in the art, as evidenced by their art-recognized divergence in subject matter. Because different searches would have to be performed to examine claims directed to the inventions of Groups LXX-XCI, an examination of more than one would constitute a serious burden.

Since the inventions of Groups LXX-XCI have been shown to be patentably distinct, and because the examination of both could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

The inventions of Groups XCII-CXII are patentably distinct, since, although all are processes for inhibiting cervical cancer in a patient, each different invention is a process comprising administering to the patient an antisense oligonucleotide that is effective to reduce the level of expression of a different marker. The different markers detected in the practice of these different inventions are structurally and/or functionally distinct, each from the others. Similarly, the antisense oligonucleotides that are effective to reduce the levels of expression of each different marker are necessarily distinct, each from the others. Consequently, the processes are necessarily materially different processes comprising different process steps.

Because the inventions of Groups XCII-CXII are distinct for these reasons, the search required to examine claims directed to any one of these inventions is not the same, nor is it coextensive with the search required to examine claims directed to any other. Furthermore, the inventions of Groups XCII-CXII have acquired a separate status in the art, as evidenced by their art-recognized divergence in subject matter. Because different searches would have to be performed to examine claims directed to the inventions of Groups XCII-CXII, an examination of more than one would constitute a serious burden.

Since the inventions of Groups XCII-CXII have been shown to be patentably distinct, and because the examination of both could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

The inventions of Groups CLVIII-CLXXIX are patentably distinct, since, although all are processes for assessing the cervical cancer carcinogenic potential of a test compound, each different invention is a process comprising measuring the level of expression of a different marker. The different markers detected in the practice of these different inventions are structurally and/or functionally distinct, each from the others. Consequently, the processes for detecting the different markers are necessarily materially different processes comprising different process steps.

Because the inventions of Groups CLVIII-CLXXIX are distinct for these reasons, the search required to examine claims directed to any one of these inventions is not the same, nor is it coextensive with the search required to examine claims directed to any other. Furthermore, the inventions of Groups CLVIII-CLXXIX have acquired a separate status in the art, as evidenced by their art-recognized divergence in subject matter. Because different searches would have to be performed to examine claims directed to the inventions of Groups CLVIII-CLXXIX, an examination of more than one would constitute a serious burden.

Since the inventions of Groups CLVIII-CLXXIX have been shown to be patentably distinct, and because the examination of both could not be made without serious burden, it is proper to restrict each from the other. See MPEP § 803.

5. Because these inventions are distinct for the reasons given above and also because the search required for any one group is not required for any other group and/or the inventions have acquired a separate status in the art as shown by their different classification or their recognized divergent subject matter, searching more than one invention encompassed by the claim would constitute a serious burden; therefore, restriction for examination purposes as indicated is proper.

6. This application contains claims 1-21 directed to patentably distinct species of the invention of Groups I and II, wherein said one or a plurality of markers is selected from the group consisting of M1A, M718, OV3A, M719, M720, M5A, M10A, M29A, M30A, M721, M488A, M35, M722, M723, M666, M489A, OV43A, M51A, M58, M22A, M74A, and M78, as listed in Table 1 of the specification.

It is recognized that claims 1-21 are directed to a process comprising determining the level of expression of one or a plurality of markers selected from the above-identified group. Each of the above-identified markers is structurally and/or functionally distinct from the others, as, for example, each comprises a relatively unique polynucleotide sequence and encodes a protein having relatively unique amino acid sequence. As each marker is distinct from the others, each combination of more than one marker is distinct from other combinations that include one or more different markers. Accordingly, each species of invention is patentably distinct from the others since each comprises determining the level of expression of a different marker or a different combination of more than one marker.

For this reason, the examination of claims directed to any one species of invention would require a unique search that is not required for examination of any of the other species of invention. The search of claims directed to any one species of invention will not provide adequate information regarding any other to obviate the need to perform a separate and different search of the other. Moreover, the search necessary to examine claims directed to any one species of invention is not the same, nor is it coextensive with the search necessary to examine claims directed to any other. Since having to perform more than one search would constitute a serious burden, it is proper to restrict these species of invention and require Applicant to elect only one. See MPEP § 809.

Applicant is required under 35 U.S.C. 121 to specifically elect a single species of invention by identifying the one or more markers selected from the above-identified group to which the claims of elected group of inventions will be directed during prosecution on the merits, and to which the claims shall be restricted if no generic claim is finally held to be allowable. The Examiner notes that novelty and nonobviousness of

the elected species of invention would render claims directed to that species allowable over the prior art, but not necessarily over the requirements set forth under 35 U.S.C. §§ 101 and 112.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, Applicant will be entitled to consideration of claims to additional species, which are written in dependent form, or otherwise, include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

7. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. § 103(a) of the other invention.

8. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen L. Rawlings, Ph.D., whose telephone number is (571) 272-0836. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms, Ph.D. can be reached on (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen L. Rawlings, Ph.D.
Examiner
Art Unit 1643

slr
April 4, 2006